


Dysprosium Phosphide	Pricing >
Dysprosium Phosphide Sputtering Target	Pricing >

Linear Formula	DyP
Pubchem CID	82804
MDL Number	N/A
EC No.	234-650-3
IUPAC Name	phosphanylidynedysprosium
Beilstein/Reaxys No.	N/A
SMILES	[Dy]#P
Inchi Identifier	InChI=1S/Dy.P
Inchi Key	NAUXLTDHJZDBHT-UHFFFAOYSA-N
Signal Word	Warning
Hazard Statements	H315-H319-H335
Hazard Codes	Xi
Precautionary Statements	P261-P280-P305+P351+P338-P304+P340-P405-P501
Risk Codes	N/A
Safety Statements	N/A
RTECS Number	N/A
Transport Information	NONH for all modes of transport
GHS Pictograms	GHS07 Exclamation Point 

[Create Printable PDF](#)

SAFETY DATA SHEET

Date Accessed: 04/25/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #12019-91-9

Relevant identified uses of the substance:
Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in
accordance with 29 CFR 1910 (OSHA HCS)

GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Hazards not otherwise classified

No information known.

Label elements

GHS label elements

The product is classified and labeled in accordance
with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS07

Signal word

Warning

Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P261

Avoid breathing dust/fume/gas/mist/vapours/spray.

P280

Wear protective gloves/protective clothing/eye
protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with
water for several minutes. Remove contact lenses, if
present and easy to do. Continue rinsing.

P304+P340

IF INHALED: Remove person to fresh air and keep
comfortable for breathing.

P405

Store locked up.

P501

Dispose of contents/container in accordance with

local/regional/national/international regulations.
WHMIS classification
D2B - Toxic material causing other toxic effects
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
Health (acute effects) = 2
Flammability = 1
Physical Hazard = 1
Other hazards
Results of PBT and vPvB assessment
PBT:
Not applicable.
vPvB:
Not applicable.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Substances
CAS# Description: 12019-91-9
Dysprosium Phosphide
Formula: DyP

SECTION 4. FIRST AID MEASURES

Description of first aid measures
After inhalation
Supply fresh air. If required, provide artificial
respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact
Immediately wash with water and soap and rinse
thoroughly.
Seek immediate medical advice.
After eye contact
Rinse opened eye for several minutes under running
water. Then consult a doctor.
After swallowing
Seek medical treatment.
Information for doctor
Most important symptoms and effects, both acute and
delayed
No further relevant information available.
Indication of any immediate medical attention and
special treatment needed
No further relevant information available.

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing agents

Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:

Metal oxide fume

Hydrogen phosphide (Phosphine)

Phosphorus oxides

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Prevention of secondary hazards:

No special measures required.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling

Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

May react with water or acids to produce phosphine gas which is toxic and flammable.

Conditions for safe storage, including any

incompatibilities

Storage

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Do not store together with acids.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Specific end use(s)

No further relevant information available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

Not required.

Additional information:

No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Eye protection:

Safety glasses

Body protection:

Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

General Information

Appearance:

Form: Solid in various forms

Odor: Odorless

Odor threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: Not determined

Boiling point/Boiling range: Not determined

Sublimation temperature / start: Not determined

Flash point: Not applicable

Flammability (solid, gaseous)

Not determined.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Auto igniting: Not determined.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined

Upper: Not determined

Vapor pressure: Not applicable.

Density: Not determined

Relative density

Not determined.

Vapor density

Not applicable.

Evaporation rate

Not applicable.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic: Not applicable.

kinematic: Not applicable.

Other information

No further relevant information available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Contact with acids liberates very toxic gas.

Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions
May react with water or acids to produce phosphine gas which is toxic and flammable.
Contact with acids liberates very toxic gas.
Conditions to avoid
No further relevant information available.
Incompatible materials:
Acids
Hazardous decomposition products:
Metal oxide fume
Hydrogen phosphide (Phosphine)
Phosphorus oxides (e.g. P₂O₅)

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
No effects known.
LD/LC₅₀ values that are relevant for classification:
No data
Skin irritation or corrosion:
Causes skin irritation.
Eye irritation or corrosion:
Causes serious eye irritation.
Sensitization:
No sensitizing effects known.
Germ cell mutagenicity:
No effects known.
Carcinogenicity:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:
No effects known.
Specific target organ system toxicity - repeated exposure:
No effects known.
Specific target organ system toxicity - single exposure:
May cause respiratory irritation.
Aspiration hazard:
No effects known.
Subacute to chronic toxicity:
Tantalum compounds may cause skin and eye irritation.
Inorganic phosphorus compounds may cause irritation and hemorrhages in the stomach as well as liver and kidney damage. Bone structure may be attacked, especially the jaw and teeth.
Subacute to chronic toxicity:
No effects known.
Subacute to chronic toxicity:

Phosphine, if generated, is a very toxic, flammable gas. The chief effects are central nervous system depression and lung irritation. Inhalation can cause coma and convulsions leading to death within 48 hours.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity:

No further relevant information available.

Persistence and degradability

No further relevant information available.

Bioaccumulative potential

No further relevant information available.

Mobility in soil

No further relevant information available.

Additional ecological information:

General notes:

Do not allow material to be released to the environment without proper governmental permits.

Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.

Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

Other adverse effects

No further relevant information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

Not a hazardous material for transportation.

UN-Number
DOT, IMDG, IATA
None
UN proper shipping name
DOT, IMDG, IATA
None
Transport hazard class(es)
DOT, ADR, IMDG, IATA
Class
None
Packing group
DOT, IMDG, IATA
None
Environmental hazards:
Not applicable.
Special precautions for user
Not applicable.
Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code
Not applicable.
Transport/Additional information:
Not dangerous according to
the above specifications.
DOT
Marine Pollutant (DOT):
No

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental
regulations/legislation specific for the substance or
mixture
GHS label elements
The product is classified and labeled in accordance
with 29 CFR 1910 (OSHA HCS)
Hazard pictograms
GHS07
Signal word
Warning
Hazard statements
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
Precautionary statements
P261
Avoid breathing dust/fume/gas/mist/vapours/spray.
P280
Wear protective gloves/protective clothing/eye
protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with
water for several minutes. Remove contact lenses, if
present and easy to do. Continue rinsing.

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

SARA Section 313 (specific toxic chemical listings)
Substance is not listed.

California Proposition 65

Prop 65 - Chemicals known to cause cancer
Substance is not listed.

Prop 65 - Developmental toxicity
Substance is not listed.

Prop 65 - Developmental toxicity, female
Substance is not listed.

Prop 65 - Developmental toxicity, male
Substance is not listed.

Information about limitation of use:

For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use)

Substance is not listed.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held

liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.
